

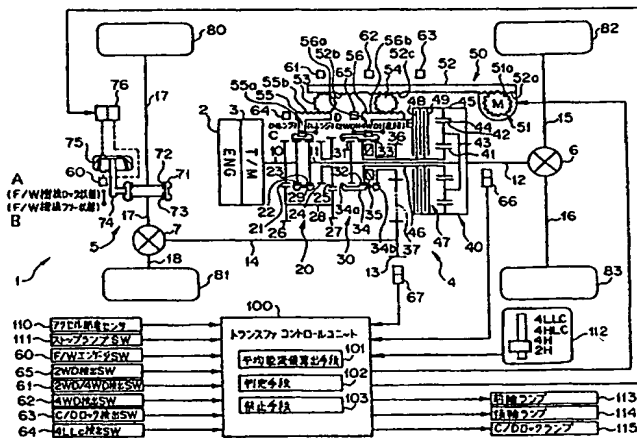
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(21) 国際出願番号 PCT/JP00/00592		(74) 代理人 真田 有(SANADA, Tamotsu) 〒180-0004 東京都武蔵野市吉祥寺本町1丁目10番31号 吉祥寺広瀬ビル5階 Tokyo, (JP)	
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(71) 出願人 (米国を除くすべての指定国について) 三菱自動車工業株式会社 (MITSUBISHI JIDOSHA KOGYO KABUSHIKI KAISHA) [JP/JP] 〒108-8410 東京都港区芝5丁目33番8号 Tokyo, (JP)		添付公開書類 国際調査報告書	
(72) 発明者 ; および (75) 発明者 / 出願人 (米国についてのみ) 吉岡 禎(YOSHIOKA, Tadashi)[JP/JP] 吉田茂之(YOSHIDA, Shigeyuki)[JP/JP] 澤瀬 薫(SAWASE, Kaoru)[JP/JP] 丹羽貴久(NIWA, Takahisa)[JP/JP] 生島嘉大(IKUSHIMA, Yoshihiro)[JP/JP] 〒108-8410 東京都港区芝5丁目33番8号 三菱自動車工業株式会社内 Tokyo, (JP)			

(54)Title: DRIVING-STATE SWITCHING DEVICE EQUIPPED WITH SYNCHRONIZING MECHANISM

(54)発明の名称 シンクロ機構付き駆動状態切換装置

(57) Abstract

A driving-state switching device equipped with a synchronizing mechanism switches the driving-state by using the synchronizing mechanism. It comprises a first gear (32) and a second gear (33) that are fixed on the same axis, a gear connecting member (34) adapted to be axially moved to make it possible to connect the first and second gears (32, 33), and a synchronizing mechanism (35) disposed between the first and second gears (32, 33), the arrangement being such that the gear connecting member (34) is moved by a motor-driven actuator (50), whereby the first and second gears (32, 33) are connected together while being synchronized by the synchronizing mechanism (35). At this time, the supply current to the motor-driven actuator (50) is controlled by a control means (100) and the synchronizing mechanism (35) is decided by a decision means (102) on the basis of a change in the value of the supply current fed to the motor-driven actuator (50). This enables the decision of the synchronism of the synchronizing mechanism (35) without providing a sensor, a switch or the like for exclusive use and also enables accurate synchronism decision corresponding to individual differences in the slide resistance between members and to a change in the operating state.



60...F/W ENGAGE SW
61...2WD/4WD DETECTION SW
62...4WD DETECTION SW
63...C/D LOCK DETECTION SW
64...4LLC DETECTION SW
65...2WD DETECTION SW
100...TRANSFER CONTROL UNIT
101...MEAN CURRENT VALUE CALCULATING MEANS
102...DECISION MEANS
103...INHIBIT MEANS

110...ACCELERATOR OPENING-DEGREE SENSOR
111...STOP LAMP SW
113...FRONT WHEEL LAMP
114...REAR WHEEL LAMP
115...C/D LOCK LAMP
A...(F/W MECHANISM IN LOCKED STATE)
B...(F/W MECHANISM IN FREE STATE)
C...(H RANGE)
D...(L RANGE)
E...(2WD) (4WD) (CONNECTION)